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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,802	09/30/2003	Melissa Ann Clark	030627/263750	2236

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EXAMINER

LYLES IRVING, CARMEN V

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,802

Applicant(s)

CLARK ET AL.

Examiner

Carmen Lyles-Irving

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5 dates.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 17, 18, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Mentzel et al (U.S. Patent No. 5,423,336). Regarding claim 1, Mentzel teaches a cigarette comprising a tobacco rod and a filter element connected to the tobacco rod, said filter element having an end proximal to the tobacco rod and an end distal from the tobacco rod, wherein said filter element comprises: a first longitudinally extending section of filter material positioned at the end of the filter element proximal to the tobacco rod; a second longitudinally extending section of filter material positioned at the end of the filter element distal from the tobacco rod and spaced apart from said first section of filter material, the two sections of filter material defining a compartment therebetween; an adsorbent material in granular form contained within at least a portion of said compartment; and a plurality of ventilation holes adapted for introducing air into the filter element, said ventilation holes being located at a point along the length of said filter element between the end of the filter element proximal to the tobacco rod and the approximate midpoint of the adsorbent-containing portion of said compartment (Figure 1). Accordingly, claim 1 is rejected.

Regarding claim 2, Mentzel teaches the ventilation holes are located between the midpoint of said adsorbent-containing portion of said compartment and the end of said adsorbent-containing portion of said compartment proximal to said first section of filter material (Figure 1). Accordingly, claim 2 is rejected.

Regarding claim 3, Mentzel teaches the first section of filter material and said second section of filter material is cellulose acetate tow (column 3, line 68 – column 4, line 6). Accordingly, claim 3 is rejected.

Regarding claims 17 and 18, Mentzel teaches said adsorbent is activated carbon (column 4, lines 16-18). Accordingly, claims 17 and 18 are rejected.

Regarding claim 23, Mentzel teaches the entire component contains adsorbent (Figure 1; column 4, lines 19-20). Accordingly, claim 23 is rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied to claim 1 above, in view of Keith (U.S. Patent No. 3,460,543).

Mentzel fails to teach that the first section of filter material and the second section of filter material comprise plasticized cellulose acetate tow. However, Keith teaches that it is conventional in the art for a plug or chambered filter to consist of plasticized cellulose acetate tow (column 6, lines 17-23). As a result, it would have been obvious to one of

Art Unit: 1731

ordinary skill in the art at the time of the invention to combine the teaching of Mentzel with the teaching of Keith to invent a cigarette made of plasticized cellulose acetate tow. Accordingly, claim 4 is rejected.

Regarding claim 5, Mentzel and Keith fail to teach that the first section of filter material and the second section of filter material have the same particulate removal efficiency. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that if both the first and the second section of filter material are made of the same material, i.e. plasticized cellulose acetate tow, then the both sections of the filter will have the same particulate removal efficiency. Accordingly, claim 5 is rejected.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied in claim 1 above, and Seligman et al (U.S. Patent No. 3,101,723). Mentzel fails to teach that the second section of filter material has a greater particulate removal efficiency than said first section of filter material and vice versa. However, Seligman teaches that the particulate removal efficiency of a filter will vary depending upon the denier per filament of the filter (column 3, line 68 – column 4, line 2). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to make a cigarette where the second section of the filter material has a greater particulate removal efficiency than the first section of filter material and vice versa, depending upon the desired end product, i.e. denier per filament or weight per unit length of the cigarette. Accordingly, claims 6 and 7 are rejected.

Art Unit: 1731

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied in claim 1 above, in view of St. Pierre (U.S. Patent No. 5,331,976). Mentzel fails to teach said first section of filter material and said second section of filter material comprising a fibrous filter material, and said first section of filter material comprises filaments having a lower weight per unit length than the filaments of said second section of filter material. St. Pierre teaches that denier per filament (weight per unit length of filter), total denier, cross section of the fiber, crimp, and moisture levels can all be varied within limits during tow production (column 4, lines 25-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Mentzel with the teaching of St. Pierre to make the first section of the filter material have a lower weight per unit length than the second section of the filter material in order to influence the physical characteristics of the filter rod, including its firmness, weight, pressure drop or resistance to draw (column 4, lines 28-31). Accordingly, claims 8-10 are rejected.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied to claim 1 above. Regarding claims 11 and 12, Mentzel fails to teach the overall length of the filter element. However, due to a lack of criticality and unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to design a filter element with an overall length, i.e. about 15 to about 65 mm or about 25 to about 50 mm, to achieve the desired end product. Accordingly, claims 11 and 12 are rejected.

Art Unit: 1731

Regarding claims 13 and 14, Mentzel fails to teach the length of each of the first and second sections of filter material. However, due to a lack of criticality and unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to design a filter element with first and second section lengths, i.e. about 5 to about 25 mm *or* about 5 to about 15 mm, to achieve the desired end product. Accordingly, claims 13 and 14 are rejected.

Regarding claims 15 and 16, Mentzel fails to teach the length of said adsorbent-containing compartment. However, due to a lack of criticality and unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to design a filter element with an adsorbent-containing compartment, i.e. about 5 to about 20 mm *or* about 5 to about 10 mm, to achieve the desired end product. Accordingly, claims 15 and 16 are rejected.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied in claim 1 above, in view of Frund (U.S. Patent No. 5,714,126). Mentzel fails to teach the use of an activated carbon that has an activity of about 60 to about 150 Carbon Tetrachloride Activity. However, Frund teaches the use of an activated carbon that has a carbon tetrachloride activity of at least 95. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Mentzel with the teaching of Frund to produce a filter capable of filtering toxic agents. Accordingly, claim 19 is rejected.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied in claim 1 above, in view of Wise et al (U.S. Patent No. 3,658,069). Mentzel

Art Unit: 1731

fails to teach that the adsorbent has a particle size of about 8x16 mesh to about 30x70 mesh. However, Wise teaches the use of activated charcoal (carbon) in a plug or chambered filter with a particle size of about 8x16 mesh to about 30x70 mesh (between about 8 and 50 mesh) (column 2, lines 15-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to produce a cigarette with a plug-space-plug (chambered) filter containing an adsorbent of a particle size capable of removing a relatively large percentage of carbon monoxide from the smoke stream, which would otherwise reach the smoker's mouth (column 1, lines 50-52). Accordingly, claim 20 is rejected.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied in claim 1 above, in view of Jupe et al (U.S. Patent No. 6,761,174). Mentzel fails to teach the number and size of said ventilation holes is sufficient to provide a volumetric air dilution of mainstream smoke of about 10 to about 70 percent and more specifically a dilution of mainstream smoke of about 30 to about 40 percent. However, Jupe teaches that in a 6 mg FTC tar delivery cigarette the level of ventilation or dilution of mainstream is preferably in the range of 40 to 60 percent and more preferably approximately 45 to 55% (column 5, lines 51-53). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Mentzel with the teaching of Jupe to design a cigarette filter with sufficient ventilation that reduces the amount of tobacco that is combusted during a puff (column 5, lines 58-60). Accordingly, claims 21 and 22 are rejected.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mentzel, as applied in claim 1 above, in view of St. Pierre (U.S. Patent No. 5,331,976). Mentzel teaches a cigarette comprising a tobacco rod and a filter element connected to the tobacco rod, said filter element having an end proximal to the tobacco rod and an end distal from the tobacco rod, wherein said filter element comprises: a first longitudinally extending section of fibrous filter material positioned at the end of the filter element proximal to the tobacco rod; a second longitudinally extending section of fibrous filter material positioned at the end of the filter element distal from the tobacco rod and spaced apart from said first section of filter material, the two sections of filter material defining a compartment therebetween (Figure 1); an adsorbent material in granular form contained within said compartment (Figure 1; column 4, lines 19-24), said adsorbent material being activated carbon (column 4, lines 16-18); and a plurality of ventilation holes adapted for introducing air into the filter element, said ventilation holes being located between the midpoint of said adsorbent-containing compartment and the end of said adsorbent-containing compartment proximal to said first section of filter material (Figure 1). Mentzel fails to teach a first section of fibrous filter material comprises filaments having a lower weight per unit length than the filaments of said second section of fibrous filter material. However, St. Pierre teaches that denier per filament (weight per unit length of filter), total denier, cross section of the fiber, crimp, and moisture levels can all be varied within limits during tow production (column 4, lines 25-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Mentzel with the teaching of St. Pierre make the

Art Unit: 1731

first section of the filter material have a lower weight per unit length than the second section of the filter material in order to influence the physical characteristics of the filter rod, including its firmness, weight, pressure drop or resistance to draw (column 4, lines 28-31). Accordingly, claim 24 is rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carmen Lyles-Irving whose telephone number is (571) 272-2945. The examiner can normally be reached Monday through Friday from 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLI
10/03/2005


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